REMARKS

Claims 1, 3, 5-7, 9-14 and 16-21 remain pending in the present application. Claims 2, 4, 8 and 15 have been cancelled. Claims 1, 5, 6, 9 and 14 have been amended. Claims 16-21 are new. Basis for the amendments and new claims can be found throughout the specification, claims and drawings originally filed.

REJECTION UNDER 35 U.S.C. § 103

Claims 1 and 3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over JP '653 in view of UK '980. Applicant respectfully traverses this rejection. Claims 4-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over JP '653 in view of UK '980 as set forth above, further taken with either Thivet or UK '698. Applicant respectfully traverses this rejection.

In the present inventions as described in amended independent Claims 1, 6 and 14, the lead wire is bent in the shape of a U in the casing on a plane generally parallel to the body surface of the electric heater. One lead wire is connected to the temperature detecting element and the other lead wire is led out in the same direction as the other lead wire which is from one side of the casing. The straight portions of the one lead wire and the other lead wire can effectively detect conduction of heat from the body surface of the electric heater.

Since the temperature detecting element is arranged at a straight portion of the hot water pipe side, the temperature of the hot water can be suitably detected.

Since both of the sheathed heater and the hot water pipe are embedded in the aluminum body, the difference between the temperatures detected by two straight

portions in the U-shaped lead wire becomes small and the temperature of the hot water can be suitably detected.

JP '653 discloses a temperature fuse 80a, 80b but these temperature fuses do not have lead wires in the shape of a U in the casing on a plane generally parallel to the body surface of the electric heater to which the temperature sensor is mounted.

UK 980 discloses a U-shaped lead wire but the U-shaped lead wire is not located on a plane generally parallel to the body surface of the electric heater to which the temperature sensor is mounted. The temperature sensor in UK 980 is not mounted on a surface, it is submerged in the liquid which the heater is heating. Neither JP '653 or UK 980 taken alone or in combination disclose, teach or suggest a U-shaped lead wire positioned on a plane generally parallel to the surface to which the temperature sensor is mounted.

Thus, Applicant believes independent Claims 1, 6 and 14, as amended, patentably distinguish over the art of record. Likewise, Claims 2, 3, 5, 7 and 9-14, which ultimately depend from one of these independent claims, are also believed to patentably distinguish over the art of record. Claims 2, 4, 8 and 15 have been cancelled. Reconsideration of the rejection is respectfully requested.

NEW CLAIMS

New Claims 16-21 are dependent claims which Applicant believes properly further limit their respective base claim.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: August 2, 2005

By: _____
Michael J. Schmidt, 34,007

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

MJS/pmg